



To: Bill Schenk, Trevor Watson

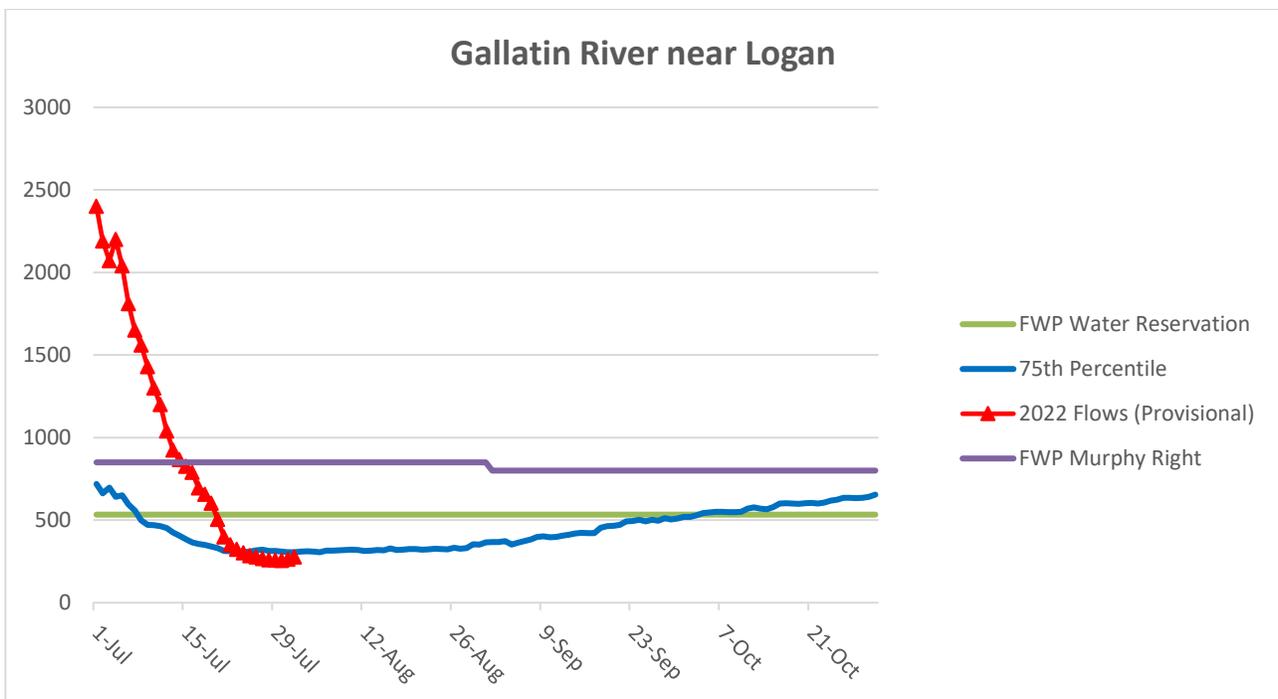
C: Marina Yoshioka, Jim Olsen, Amy Groen, Andy Brummond

From: Stephen Begley, FWP Water Program
Mike Duncan Bozeman Area Fisheries Management Biologist

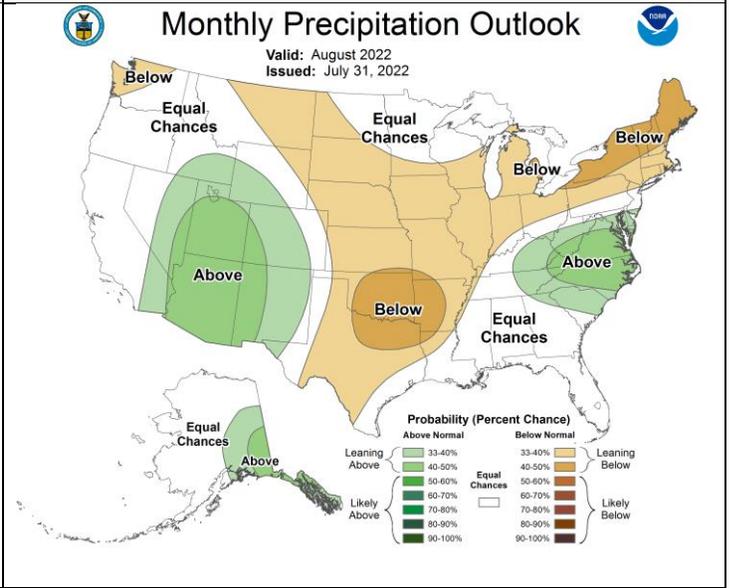
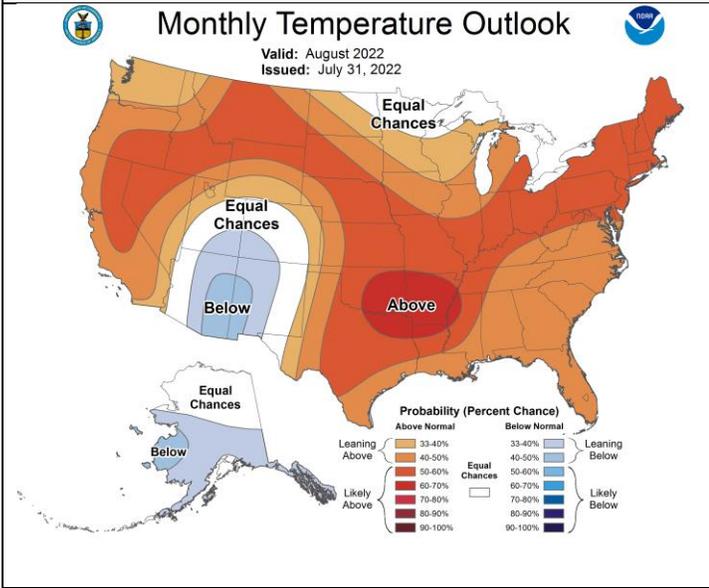
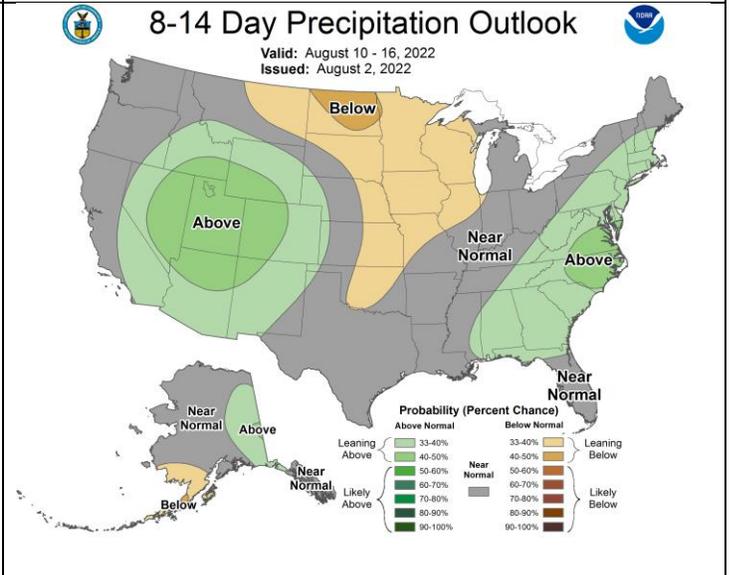
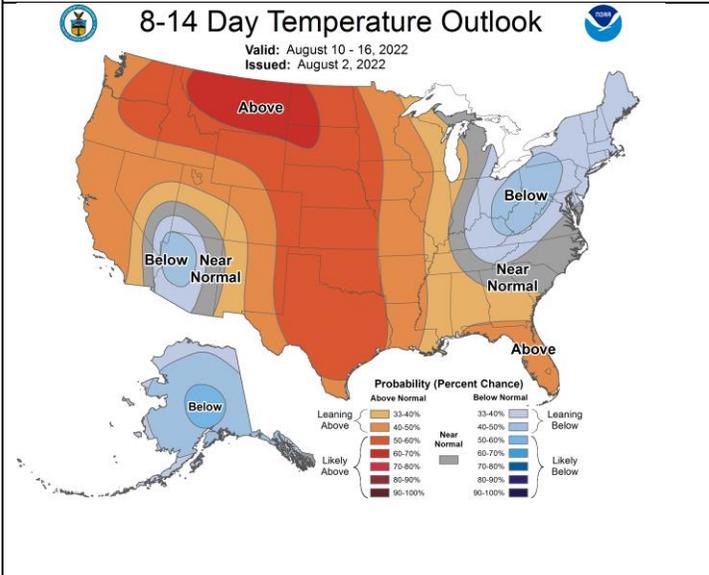
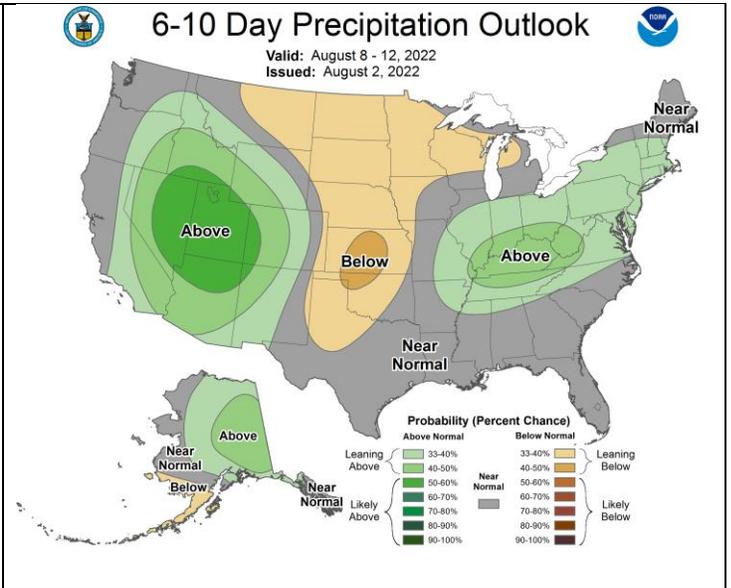
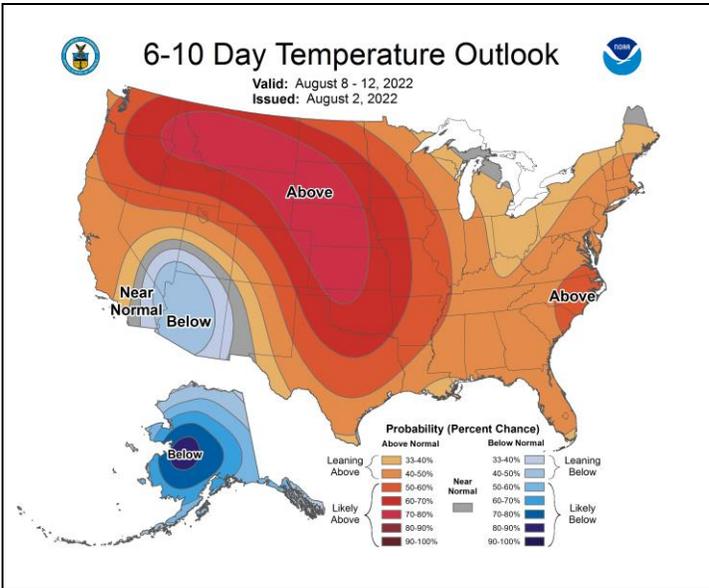
Date: August 2, 2022

Subject: Gallatin River – Call on Junior Water Rights

Fisheries and Water Program staff have monitored flow and water temperature in the Gallatin River and consulted on river conditions and potential merits of placing call on junior water uses. We jointly recommend that FWP make call on the Gallatin River. Stream flow in the Gallatin River has dropped well below FWP’s instream water reservation. The hydrograph below shows that flow is below the 75th percentile exceedance flow (level met or exceeded 3 out of 4 years) for the USGS gage at Logan (129-year period of record).



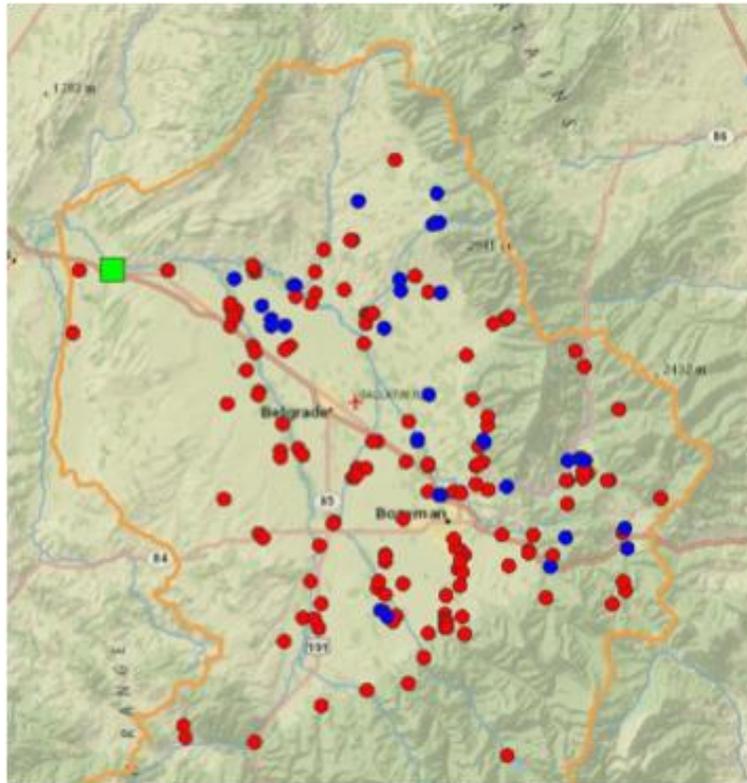
The 6-10- and 8-14-day precipitation outlooks lean towards above normal precipitation while the August monthly outlook leans towards below normal precipitation overall for the month (graphics attached). However, normal precipitation for this time of year is relatively light overall so increased chances of precipitation do not necessarily translate to improved stream flow. Temperatures for all three reporting periods point toward above normal temperatures. Given expected weather conditions and high demand for irrigation water, streamflow would not be expected to again meet FWP’s instream flow rights into the fall without significant precipitation events.



Given that there are active water distribution projects on the West Gallatin River, most junior water users on both the mainstem and tributaries are shut off by the water commissioner early in the season. FWP’s focus is on junior water users who divert water from both the mainstem and tributaries of the East Gallatin River where no water commissioner is currently present¹. A review of DNRC’s water rights database includes a list of 37 junior water rights. Each of the water rights were reviewed to determine if cessation of water use would likely result in additional flow reaching the Gallatin River. The following table lists the water rights by purpose of use.

Purpose	Call	No Call	Total Called Flow Rate
Irrigation	33	48	36.35 cfs
Domestic Lawn and Garden	2	15	0.71 cfs
Fish and Wildlife/Recreation	2	144	2.33 cfs
Stock	0	17	--
Other	0	9	--
Total	37		39.39 cfs

The following map shows the location of all junior water rights. Those represented by blue dots would be called while those represented by red dots would not because of the low likelihood of improving flow in the river. The green square is the location of USGS Gage 06052500.



¹ On July 29th, FWP contacted George Alberda who is the Water Commissioner for the West Gallatin and tributary streams. Mr. Alberda confirmed that juniors to FWPs Water Rights were already shut off and he was administering rights senior to FWPs.

The Gallatin River and tributaries hold a stable wild trout fishery of both native and nonnative species. Dewatering and associated warm water temperatures can negatively impact the fishery. High-water temperatures and fragmented habitat can also increase acute stress, disease development and induce mortality. During high temperature periods, higher streamflow can counteract the effects of high temperature and improve fish survival by moderating water temperature and providing more deep pool habitat where fish can avoid higher water temperatures. The chart below shows maximum daily water temperatures at the Logan gage below the confluence of the East and mainstem Gallatin River exceeding 73°F for several consecutive days. With higher temperatures forecasted, maximum daily water temperatures are expected to continue exceeding 73°F. Fishing restrictions are currently in place throughout the Gallatin system to also help reduce stress and impact from high temperatures and low flow.

